

Title (en)
GAS/LIQUID MIXING APPARATUS

Title (de)
VORRICHTUNG ZUM MISCHEN EINER FLÜSSIGKEIT MIT EINEM GAS

Title (fr)
DISPOSITIF DE MELANGE GAZ-LIQUIDE

Publication
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Application
EP 93922460 A 19931007

Priority
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• AU PL526192 A 19921013

Abstract (en)
[origin: WO9408724A1] A mixing apparatus (1, 100) for atomising a fluid in a gas flow. The apparatus (1, 100) has a nozzle (2, 102) which fluidly communicates with a source of liquid, and a gas passage (3, 103) which surrounds the nozzle (2, 102). The nozzle (2, 102) is formed such that it, in use, directs the liquid into the surrounding passage as a substantially continuous, generally radially emanating sheet. As such, the gas flowing through the passage (3, 103) impacts with the liquid sheet to produce a substantially uniform cloud of atomised liquid droplets downstream of the nozzle (2, 102). The apparatus (1, 100) may further have a reduced cross-sectional area (25, 113) of the passage (3, 103) in the vicinity of the nozzle to increase the gas velocity and enhance the atomisation of the fluid. Further, the nozzle (2, 102) may have a valve arrangement to selectively open and close the nozzle (2, 102), and the passage (3, 103) may likewise have a valve arrangement. Furthermore, a swirl mixing (114) of the atomised liquid and gas may be provided downstream of the impact atomisation of the fluid sheet in the passage (3, 103). The apparatus is particularly useful in internal combustion engines, although it is also applicable in any other context requiring a liquid to be atomised in a gas stream.

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